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A review of New World *Laemophloeus* Dejean (Coleoptera: Laemophloeidae): 2. Neotropical species with antennal club of three antennomeres

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A review of New World *Laemophloeus* Dejean (Coleoptera: Laemophloeidae): 2. Neotropical species with antennal club of three antennomeres

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Abstract. Eleven Neotropical species of *Laemophloeus* Dejean with antennal clubs composed of three antennomeres are reviewed, diagnosed, and illustrated. Six of the species are described as new: *L. capitesculptus* Thomas, **n. sp.**, *L. corporeflavus* Thomas, **n. sp.**, *L. dozieri* Thomas, **n. sp.**, *L. insulatestudinorum* Thomas, **n. sp.**, *L. planaclavatus* Thomas, **n. sp.**, and *L. taurus* Thomas, **n. sp.** Four new synonymies are proposed: *L. catharinensis* Kessel (=*L. incisus* Sharp), **new synonym**; *L. similans* Kessel (=*L. incisus* Sharp), **new synonym**; *L. distinguendus* Sharp (=*L. megacephalus* Grouvelle), **new synonym**, and *L. chevrolati* Grouvelle (=*L. lecontei* Grouvelle), **new synonym**. A key to the species is provided.

Introduction

This is the second in a planned series of three papers reviewing the New World species of *Laemophloeus*. The present paper treats 11 Neotropical species, five of which were previously undescribed, which possess antennal clubs composed of three antennomeres. It was preceded by a review of five Neotropical species possessing antennal clubs of six or more antennomeres (Thomas 2013). It will be followed by a review of the Nearctic species.

Discussion of Characters

As in the previous paper in this series (Thomas 2013), characters used here on the elytra, the antennae, and the male genitalia necessitate some discussion.

Elytral cells. Lefkovitch (1962) illustrated and described these cuticular features as "...a system of longitudinal raised areas. The position of these raised areas is quite constant. They occur in the first, third, fifth and seventh intervals on each elytron, but there is some variation between genera, and between species in some genera, in the degree of elevation and in the lateral width. The regions enclosed by these raised areas, which are continuous both apically and basally, are called a cell for the purposes of this paper."

Antennae. The antennal club in Laemophloeidae can be defined as being composed of those antennomeres with specialized olfactory sensilla, regardless of relative width or color of the antennomeres (Thomas 2013). By that definition, this group of species possesses an antennal club composed of the usual three antennomeres. However, there is a unique setal character present in one species pair. In *L. lecontei* Grouvelle and *L. taurus* n.sp., the setae of the body of the club segments occur in clusters of two to three setae (Fig. 35), instead of the usual single seta (Fig. 54). Although this character is best seen with a scanning electron microscope, it can be discerned under a binocular microscope under high magnification (160×) and good lighting. Even under lower magnification, the club segments of these two species have an unusual "sparkling" appearance.

Male genitalia. The basal plates described in Thomas (2013) are present in most of the species treated here. In addition, the parameral setae - number, location, and relative length - have provided useful diagnostic characters. In most *Laemophloeus* species, there are two pairs of primary setae, a basal one near the mesal margin and one located near the lateral margin of each paramere, but some species have various secondary setae and the primary setae vary in size and position.

The identification key is based primarily on male secondary sexual characters, although females can usually be identified by comparison with the illustrations and by association with males. In at least one

Figure 1. *Laemophloeus* sp., female, in amber from Dominican Republic.

species pair (*L. megacephalus* and *L. suturalis*) I have been unable to find characters to separate females. Sexes in most laemophloeid genera can be separated by tarsal formula. Males have a 5-5-4 tarsal formula; females are 5-5-5. Since many *Laemophloeus* species exhibit allometry, male secondary sexual characters (e.g., epistomal horns, relative width or head and pronotum, relative length of antennae) are often much more pronounced in large males than in small males.

Fossil Record

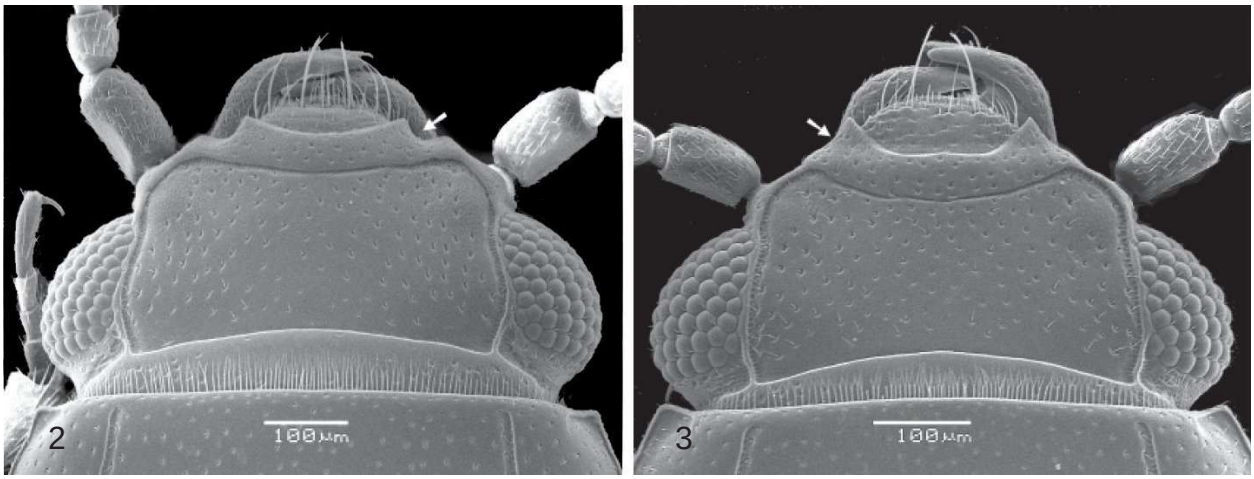
There are very few described fossil laemophloeids and no described fossil species of *Laemophloeus* (Kirejtshuk and Ponomarenko 2009). I have seen several specimens of a *Laemophloeus* with a three-segmented antennal club in amber from the Dominican Republic (Fig. 1), which is dated to about 25 million years old (Poinar and Poinar 1999).

Materials and Methods

Habitus and some genitalic photographs were taken through a Leica Z16 APO microscope equipped with a JVC KY-F75U 3-CCD camera and controlled by Syncroscopy AutoMontage® software; high magnification genitalic photographs were taken using a Leica DM 2500 microscope and resulting image stacks were processed using CombineZP®. Scanning electron photomicrographs were produced with a JEOL JSM-5510LV. Images were post-processed with Jasc Paint Shop Pro 7®. Genitalia were dissected as described by Thomas (1984) and were slide-mounted in Hoyer's solution for photography. Subsequently, they were soaked off the slide and imbedded in a drop of dimethyl hydantoin formaldehyde (DMHF) on the card point with the respective specimen.

Measurements, using the measuring utility in Leica Application Suite v. 3 on a Leica M205C, were taken as follows: **Length**: Total body length was derived by adding the following measurements: Head, from anterior most point of epistome to basal line at middle; pronotum: anterior edge to posterior edge at middle; Elytra: anterior edge of scutellum to posterior most point of elytron; **Width:** Head, widest point across eyes; Pronotum: widest point, usually behind anterior angles; Elytra: across widest point of one elytron and doubled for total width.

Label data for types of new species are reported verbatim; data are surrounded by quotes and separate labels are indicated by a forward slash (/). All types of species described here also bear my appropriate type label. Data are condensed for described species; names of countries and the next largest political



Figures 2-3. *Laemophloeus* spp., female epistomal margin. **2)** *L. lecontei*. **3)** *L. taurus*, n.sp.

subdivision are in boldface type; localities are separated by semi-colons. For the three species of Neotropical *Laemophloeus* that also occur in the Nearctic region, only Neotropical distributions are reported in detail in this paper. The Nearctic distributions of those species will be detailed in the last paper of this series.

Codens for collections referred to in the text are:

BMNH — The Natural History Museum, London, England
DEFS — Museu de Zoologia, Universidade de São Paulo, São Paulo, Brazil
FSCA — Florida State Collection of Arthropods, Gainesville, FL, USA
IRSNB — L'Institut Royal des Sciences Naturelles de Belgique, Brussels, Belgium
MNHN — Museum National d'Histoire Natural, Paris, France
MNKM — Museo de Historia Natural "Noel Kempff Mercado", Santa Cruz de la Sierra, Bolivia
MZPW — Polish Academy of Sciences, Warsaw, Poland
RHTC — Robert H. Turnbow, Jr., Enterprise, AL, USA
USNM — National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA

The important collection of Fritz Kessel, who described a number of Neotropical laemophloeids (Kessel 1926), is held by the Polish Academy of Sciences (MZPW) in Warsaw. A number of years ago, specimens were examined through the aid of Adam Slipinski, and were found to be poorly and cryptically labeled. Types of many of Kessel's species were likely present but could not be identified as such at the time. Subsequent attempts to borrow that material have been unsuccessful.

Identification key to Neotropical *Laemophloeus* with an antennal club of three antennomeres

1. Club antennomeres with complex pubescence (Fig. 35); head with deep emarginations over antennal insertions in males (Fig. 36, 59) **2**
— Club antennomeres simply pubescent (Fig. 54); head with or without deep emarginations over antennal insertions in males **3**

2(1). Epistomal horns of major male narrow; epistome sinuate laterally between tip of horn and antennal insertion (Fig. 34, 36); female with an epistomal emargination over each mandible (Fig.2) .... ***Laemophloeus lecontei* Grouvelle**

— Epistomal horns of major male broad; epistome straight laterally between tip of horn and antennal insertion (Fig. 14, 59); female epistome without an emargination over each mandible (Fig. 3) ..... ***Laemophloeus taurus*** **n.sp.**

3(1). Head with deep emarginations over antennal insertions in males (Fig. 29, 46) **4**
— Head without deep emarginations over antennal insertions in males **5**

4(3). Antennal scape of males with tuft of pubescence on dorsal surface (Fig. 45, 46); pronotum laterally with sub-basal denticle (Fig. 11) ..... ***Laemophloeus megacephalus*** **Grouvelle**
— Antennal scape without tuft of pubescence on dorsal surface; pronotum laterally without sub-basal denticle (Fig. 7) ..... ***Laemophloeus incisus*** **Sharp**

5(3). Epistomal suture depressed medially to form a distinct triangular fovea in males (females unknown) (Fig. 15); elytra without a color pattern (Fig. 4) ..... ***Laemophloeus capitesculptus*** **n.sp.**
— Epistomal suture not as above; elytra with or without color pattern **6**

6(5). Pronotum laterally without distinct antebasal denticle (Fig. 19, 40); elytra without color pattern **7**
— Pronotum laterally with antebasal denticle (as in Fig. 11); elytra often with color pattern **8**

7(6). Body elongate (Fig. 10); pronotum 1.6× wider than long; elytra not explanate laterally, 1.6× longer than combined width ..... ***Laemophloeus mathani*** **Grouvelle**
— Body oblong-ovate (Fig. 5); pronotum 1.8× wider than long; elytra broadly explanate laterally, 1.3× longer than combined width ..... ***Laemophloeus corporeflavus*** **n.sp.**

8(6). Frons on each side with a fine incised line extending diagonally from epistomal suture posteriorly to near eye (Fig. 23, 53) **9**
— Frons without diagonal lines **10**

9(8). Body color testaceous with base of elytra and suture darkly infuscate (Fig. 12); antennal club short and flattened (Fig. 54); base of each paramere with four setae (Fig. 50) ..... ***Laemophloeus planaclavatus*** **n.sp.**
— Body color dark brown, with pale elytral maculae (Fig. 6); antennal club not short and flattened (Fig.26); base of each paramere with one seta (Fig. 25) (female unknown) ..... ***Laemophloeus dozieri*** **n. sp.**

10(8). Head and pronotum darkly infuscate; elytra infuscate along suture and both basally and apically to form well-defined pale discal maculae (Fig. 8); basal setae of parameres not extending beyond tip of parameres (Fig. 32); basal plates narrow (Fig. 32); size larger, 2.3mm-3.7mm ..... ***Laemophloeus insulatestudinorum*** **n.sp.**
— Head and pronotum usually bright testaceous; elytra darkly infuscate along suture and basally, not forming pale maculae (Fig. 13); basal setae of parameres extending well beyond tip of parameres (Fig. 56); basal plates broad (Fig. 56); size smaller, 1.8mm-3.5mm ..... ***Laemophloeus suturalis*** **Reitter**

Laemophloeus capitesculptus **Thomas, n.sp.**
Fig. 4, 15-18

Types: Holotype, male, deposited in DEFS, with following label data: "Brasilien Nova Teutonia 27°11'S-52°23'L III 1945 Fritz Plaumann 300-500m". The genitalia have been dissected and imbedded in a drop of DMHF on the point with the specimen.

Diagnosis. The following combination of characters is diagnostic for this species: body completely testaceous (Fig. 4); males with V-shaped impression on frons (Fig. 15) (female unknown); males with 5-5-5 tarsal formula. Male genitalia (Fig. 16-17) with basal plates absent, parameres each with three short, fine setae, and flagellum relatively broad and well sclerotized.

Description: 2.4mm long; elongate-ovate; dorsal and ventral surfaces testaceous; mandibles darker distally; legs slightly paler.

Head: 2.3× wider than long; epistome with emargination over labrum moderate, mandibular emarginations rather deep, antennal emarginations not present; frontoclypeal suture deeply impressed anterolaterally, becoming obsolete towards midline, then suddenly deepening to form a medial triangular fovea (Fig. 15); longitudinal line impressed; surface moderately punctate, punctures about the size of an eye facet, separated by 2-3 diameters, each subtending an inconspicuous seta about the length of a puncture diameter; disc of head between punctures smooth and shiny, without microreticulation. Mandibles large, rather elongate. Eyes moderate, length 0.4× that of head (Fig.15). Antennae elongate, attaining about basal third of elytra; scape about 1.7× longer than broad; pedicel quadrate, about 0.5× length of scape; III elongate, 1.4× longer than pedical; IV-VII elongate, subequal in length; each 0.9× length of III; VIII slightly shorter than preceding, club comprised of IX-XI, IX-X each slightly expanded distally, and subequal in length; XI about twice as long as X.

Thorax: Pronotum transverse, 1.7× wider than long; widest at about apical third; 1.3× wider at apical third than across basal angles; anterior angles slightly produced, obtusely rounded; hind angles obtuse; antebasal denticle distinct (Fig. 15); sublateral line without median fovea; punctation similar to head, punctures each subtending an inconspicuous seta about the length of a puncture diameter; surface smooth and shiny between punctures, not microreticulate. Legs rather long; femora slender.

Elytra: 1.4× longer than wide; inner margin of cell 1 grooved only at apical half, basally represented by row of punctures, outer margin represented by row of punctures, cell 1 containing a single row of punctures; inner margin of cell 2 grooved from basal third, outer margin represented by row of punctures; cell 3 complete, containing a single rows of punctures; humeral carina well-marked, and with a row of punctures along its interior edge; surface minutely punctate and inconspicuously pubescent.

Male genitalia: (Fig. 16-17) parameres broadly triangular, apparently fused except for narrow line at distal third; each paramere with 2 setae, one located nearer midline at about basal third, and a longer, finer seta located at about midpoint; basal plates represented by narrow rod-like structures; flagellum thick basally, attenuate distally, almost as long as basal strut, internal sac with 3 elongate, fibrous patches; claspers rectangular with inner apical edge produced as a rounded process about equal in length to body of clasper.

Variation: Paratype male is 2.4mm in length. Female unknown.

Distribution. Southeastern Brazil. Nova Teutonia is in the state of Santa Catarina.

Paratypes. One male paratype, deposited in DEFS, with same label data as holotype except date is "VII 1954".

Etymology. The species epithet refers to the deeply sculptured base of the epistome.

Discussion. This species is isolated in the genus and its affinities are by no means clear. Unique among the known species of *Laemophloeus*, it has a 5-5-5 tarsal formula in the male. It somewhat approaches *Charaphloeus* Casey in habitus, but no known species in that genus possesses an antebasal denticle (Thomas 2013).

***Laemophloeus corporeflavus* Thomas, n.sp.**
Fig. 5, 19-22

Types: Holotype male, deposited in MNKM, with following label data: "BOLIVIA: Santa Cruz, 3.7km SSEBuenaVista, Hotel Flora & Fauna 405m., 5-15-XI-2001 17°29.949'S, 63°33.152'W

M.C.Thomas&B.K.Dozier tropical transition forest"; allotype female, deposited in MNKM, with following label data: "BOLIVIA: Santa Cruz, Potrerillos de Guendá;17°40.26S -63°27.44W 5-20-XII-2004; B. Dozier".

Diagnosis. The following combination of characters is diagnostic for this species: body completely testaceous (Fig. 5); form short, broad, with relatively broadly explanate elytral margins; pronotum without distinct antebasal denticle; male genitalia (Fig. 20) with basal plates asymmetrically developed; parameres each with two short, fine setae; internal sac with a short, fine flagellum (Fig. 21)

Description: 2.2mm long; oblong-ovate; dorsal and ventral surfaces testaceous; mandibles darker distally; legs slightly paler.

Head: 2.4× wider than long; epistome with emargination over labrum moderate, mandibular emarginations rather shallow, antennal emarginations slight; frontoclypeal suture impressed anterolaterally, obsolete medially (Fig. 19); longitudinal line absent; surface very finely, sparsely punctate, punctures much smaller than an eye facet, separated by 4-6 diameters, each subtending an inconspicuous seta about three times length of a puncture diameter; disc of head between punctures smooth and shiny, without microreticulation. Mandibles small, curved. Eyes moderate, length 0.5× that of head (Fig. 19). Antennae elongate, attaining about midpoint of elytra; scape about 1.9× longer than broad; pedicel elongate, about 0.5× length of scape; III narrow and elongate, 0.8× length of scape; IV-VII elongate, subequal in length; each 0.6× length of scape; VIII slightly shorter than preceding, club comprised of IX-XI, IX-X each slightly expanded distally, IX about as long as III, X slightly shorter; XI 1.2× length of scape.

Thorax: 1.7× wider than long; widest at about apical third; 1.2× wider at apical third than across basal angles; anterior angles produced, obtusely rounded; hind angles produced, obtuse; antebasal denticle indistinct (Fig. 19); sublateral line with a median dark spot but without median fovea; punctation and pubescence similar to head; surface smooth and shiny between punctures, not microreticulate. Legs rather short; femora stout.

Elytra: 1.4× longer than wide, comprising 0.6× total body length; inner margin of cell 1 distinctly grooved only at apical fourth, remainder represented by a very fine line and a row of punctures, outer margin obsolete, margins of cell 2 grooved at apical fifth; cell 3 complete; humeral carina well-marked; discal surface with lines of minute punctures, no discernable pubescence.

Male genitalia: (Fig. 20-21) parameres sharply triangular, apparently fused except for narrow line at distal fourth; each paramere with 2 setae, a very short, stout basal seta near inner margin at about apical third, and a longer, narrower seta near lateral margin; basal plates represented by a rectangular plate on the right, and an acuminate process on the left (Fig. 20); flagellum narrow, attenuate distally, almost as long as basal strut, internal sac with a V-shaped fibrous patch; claspers rectangular (Fig. 22).

Female allotype: 2.0mm long; head 2.3× wider than long, antennae shorter, attaining base of pronotum; pronotum 1.6× wider than long, not as narrowed basally as in male; elytra, 1.4× longer than wide, comprising 0.6× total body length.

Variation: Length of paratypes ranges from 2.1mm to 2.4mm. The nature of the antebasal denticle of the pronotum varies from barely indicated, as in the holotype, to completely absent.

Distribution. South America.

Paratypes. 9, with label data as follows: 4 "BOLIVIA: Santa Cruz, 3.7km SSEBuenaVista, Hotel Flora & Fauna 405m., 5-15-XI-2001 17°29.949'S, 63°33.152'W M.C.Thomas&B.K.Dozier tropical transition forest"; 1 "ECUADOR: Prov. Napo vic. Puerto Misahuali, 1650-1900 ft., 6-19-IX-1998 J.E. Eger, coll." / "1°2'4.2"S lat, 77°39'49.2"W lon Mercury vapor & Ultraviolet lights"; 1 "PERU: San Martin, Rumipata Lodge, 5km SE Moyobamba, 13-17-X-2012 Coll.: J.B. Heppner 970m"; 1 "PERU: San Martin Dept. Moyobamba, vic. Ecológico 'Rumipata' 13-18-X-2012 J.E. Eger" / "S 06°04'32.0", W 076°58'07.5, 970m, UV Light Trap"; 1 "TRINIDAD: Simla, Arima-Blanchissuese Rd., 27-VII-75 J. Price blacklight trap"; 1 "TRINIDAD: Simla, Arima-Blanchissuese Rd., 8-VIII-75 J. Price blacklight trap". Deposited in FSCA and MNKM.

Etymology. The species epithet refers to the overall pale yellow color of the adults of this species.

Discussion. Although this species is fairly widespread, it seems to be rarely collected.

***Laemophloeus dozieri* Thomas, n. sp.**
Fig. 6, 23-26

Types: Holotype male, deposited in MNKM, with following label data: "BOLIVIA: Santa Cruz, 3.7km SSE BuenaVista, Hotel Flora & Fauna 405m., 5-15-XI-2001 17°29.949'S, 63°33.152'W M.C.Thomas&B.K.Dozier tropical transition forest". The genitalia have been dissected and imbedded in a drop of DMHF on the card with the specimen.

Diagnosis. The following combination of characters is diagnostic for this species: body entirely dark with well-defined pale elytral maculae (Fig. 6); short antennae with antennal club composed of three antennomeres; and fine, oblique frontal grooves in the male (female unknown). Male genitalia (Fig. 25) with rather elongate basal plates; parameres each with two setae: the inner basal one thick and long; the outer one fine and shorter; internal sac with very long, slender flagellum (Fig. 24).

Description: 2.3mm long; elongate-ovate; dorsal surface dark brown; antennae and legs paler; each elytron with a pale, somewhat rectangular maculae, extending from basal fourth to midpoint and laterally from humeral carina to middle of first cell.

Head: 2.6× wider than long; epistome with emargination over labrum moderate, mandibular emarginations moderate, antennal emarginations shallow but distinct; frontoclypeal suture distinctly impressed, curved posteriorly from antennal emargination to mandibular emargination then straight medially (Fig. 23); with oblique incised line on each side extending posteriorly from frontoclypeal suture to near base of eye (Fig. 23), longitudinal line impressed; surface moderately punctate, punctures smaller than an eye facet, separated by 2-3 diameters, each subtending an inconspicuous seta about the length of a puncture diameter; disc of head between punctures smooth and shiny, without microreticulation, but with scattered micropunctures. Mandibles moderate, curved. Eyes large, coarsely facetted, length 0.6× that of head (Fig. 23). Antennae (Fig. 26) short, attaining about base of pronotum; scape about 1.4× longer than broad; pedicel subquadrate, about 0.6× length of scape; III narrow and elongate, 0.8× length of scape; IV-VII subquadrate, subequal in length; each 0.5× length of scape; VIII distinctly transverse, club comprised of IX-XI, IX-X each distinctly transverse, IX 0.7× length of scape, X slightly shorter; XI 1.2× length of scape.

Thorax: 1.6× wider than long; widest at about apical third; 1.2× wider at apical third than across basal angles; anterior angles weakly produced, obtusely rounded; hind angles not produced, right; antebasal denticle well marked (Fig. 6); sublateral line with a median dark spot and median fovea; punctation and pubescence similar to head; surface smooth and shiny between punctures, not microreticulate, but with scattered micropunctures. Legs rather short; femora stout.

Elytra: 1.3× longer than wide; inner margin of cell 1 distinctly grooved except at basal fifth, outer margin obsolete, inner margin of cell 2 grooved except at basal fifth; cell 3 complete; humeral carina well-marked; discal surface with lines of minute punctures, pubescence as on head and pronotum.

Male genitalia: (Fig. 24-25) parameres broadly triangular, apparently fused except for narrow separation at distal fifth; each paramere with 2 setae, a very long, stout basal seta near inner margin at base, extending well beyond tips of parameres, and a shorter, narrower seta near lateral margin; basal plates represented by elongate, somewhat kidney-shaped plates (Fig. 25); flagellum narrow, longer than basal strut, internal sac with an inconspicuous fibrous patch (Fig. 24).

Distribution. Bolivia.

Etymology. Named for Byrd K. Dozier, co-collector of the unique specimen upon which this species is based.

Discussion. The oblique lines on the frons in the male, and only known, specimen, are shared only with *L. planaclavatus*.

***Laemophloeus incisus* Sharp, 1899:521**
Fig. 7, 27-30

Laemophloeus incisus Sharp, 1899:521
Laemophloeus catharinensis Kessel, 1926:72,82, **new synonym**
Laemophloeus similans Kessel, 1926:72,83, **new synonym**

Types: Of *Laemophloeus incisus* Sharp: I have examined a male and female from the BMNH mounted on the same card with the following data: "Laemophloeus incisus Types D.S. Zapote" [on card with specimens]/"Type" [red-bordered circle]/"Zapote, Guatemala, C.G. Champion."/"B.C.A., Col. II(1) Laemophloeus incisus.". Of *Laemophloeus catharinensis* Kessell and *L. similans* Kessel: Although the types of these species could not be identified in the Kessel collection, it is likely they were present. All of the specimens in the Kessel collection agreeing with the descriptions of the two Kessel species (Kessel 1926: 82-83) that I examined were conspecific with *L. incisus* Sharp, and both Kessel species are here synonymized under *L. incisus* Sharp.

Diagnosis. The following combination of characters is diagnostic for this species: Length, 1.5mm - 2.8mm; body entirely testaceous to castaneous (Fig. 7); pronotum without antebasal denticle but with lateral margin sinuate before posterior angle; males with deep emargination over antennal insertion (Fig. 29); and in large specimens an elongate elliptical antennomere XI that is about as long as the combined length of the two preceding antennomeres. The male genitalia (Fig. 28) with the almost circular shape of the aedeagus; short, rounded parameres; and bulb-like sclerotization in the internal sac (Fig. 30) are unique in the genus.

Distribution. Mexico, Caribbean, Central and South America.

Specimens examined. 159, **BELIZE: Orange Walk:** Rio Bravo Conservation Area, Well Trail; **Toledo:** Columbia Forest Station; **BOLIVIA**: **Santa Cruz**: 3.7km SSE Vera Cruz, Hotel Flora & Fauna; Potrerillos del Guendá, 40km NW Santa Cruz; **BRAZIL: São Paulo:** Matão, Fazenda Marchesan; **Rondônia**: 62km SW Ariquemes, near Fazenda Rancho Grande; **COLOMBIA: Antioquia:** 24km. S & 21km W of Zaragoza, above Rio Anori; **COSTA RICA: Cartago:** Turrialba; **Heredia:** Estacion Biologica La Selva; **HONDURAS: Atlantida:** Jardín Botánico Lancetilla; **Comayagua:** 2.8km NNE Los Planes; **Copan:** 6km NW Agustin; **Yoro:** Parque Nacional Pico Pijol; **JAMAICA: St. Andrew:** Holywell Forest Camp; **Portland**: Hardwar Gap; between Hardwar Gap and Green Hills; **MEXICO: Quintana Roo:** 19km N Felipe Carrillo Puerto; **Veracruz:** Lake Catemaco, "Coyame"; **PANAMA: Chiriqui:** Puerto Armuelles; **Colón:** Barro Colorado Island, Snyder-Molino Trail; Sierra Llorona Lodge; **Panama:** Las Cumbres; **PERU: Junín:** 11km NE Puerto Ocopa, Los Olivos; 25km SW Satipo, Kuviraki; **SURINAME: Brokopondo:** Ston Eiland Eco-Resort near Brownsberg; **Saramacca:** Demboentong; **TRINIDAD:** S**an Juan-Laventille:** Curepe; **Tunapuna-Piarco:** Arima-Blanchissuese Rd.; William Beebe Tropical Research Station. In FSCA and RHTC.

Discussion. Specimens from Jamaica are darker, almost castaneous in color, than elsewhere, but I can find no other differences to distinguish that population.

***Laemophloeus insulatestudinorum* Thomas, n.sp.**
Fig. 8, 31-33

Types: Holotype male, deposited in IRSNB, with following label data: "Galapagos : I. Santa Cruz Verst. S.E., basse altitude (à la lumière) IX/X. 1964 N. & J. Leleup". The genitalia have been dissected and

imbedded in a drop of DMHF on the card point with the specimen. Allotype female, deposited in IRSNB, with following label data: "Galapagos : I. Santa Cruz Verst. S.E., basse altitude (à la lumière) XII.1964/ 1.65 N. & J. Leleup"

Diagnosis. This species is very similar to *L. suturalis*, but can be distinguished by being darker, larger, and with the setae of the parameres (Fig. 31) much shorter than in *L. suturalis* (Fig. 56).

Description: 3.6mm long; elongate-ovate; dorsal and ventral surfaces testaceous; with the following darkly infuscate: mandibles distally, anterior margin of epistome; disc of head laterad to median line; pronotum laterally; elytra basally, laterally, and apically; legs slightly paler.

Head: 2.4× wider than long; epistome with emargination over labrum moderate, mandibular emarginations rather shallow, antennal emarginations very slight; frontoclypeal suture distinct throughout (Fig. 31); longitudinal line impressed; finely punctate, punctures much smaller than an eye facet, separated by 1-3 diameters, each subtending an inconspicuous seta about 2-3 times length of a puncture diameter; disc of head between punctures smooth and shiny, with microreticulation restricted to a small posterolateral area, but with scattered micropunctures. Mandibles large, rather straight. Eyes moderate, length 0.5× that of head (Fig. 31). Antennae moderate, attaining about basal fourth of elytra; scape about 1.5× longer than broad; pedicel subquadrate, about 0.5× length of scape; III narrow and elongate, 0.8× length of scape; IV-VII elongate, subequal in length; each 0.6× length of scape; VIII slightly shorter than preceding, club comprised of IX-XI, IX-X each slightly expanded distally, IX 0.7× length of scape, X slightly shorter than IX; XI 1.3× length of scape, internal face slightly curved.

Thorax: 1.8× wider than long; widest at about apical fifth; 1.3× wider at apical fifth than across basal angles; anterior angles not produced, obtusely rounded; hind angles not produced, right; antebasal denticle distinct (Fig. 31); sublateral line with a median dark spot and with median fovea; punctation and pubescence similar to head; surface smooth and shiny between punctures, not microreticulate except at extreme posterolateral angles of disc, with scattered micropunctures. Legs rather long; femora stout.

Elytra: 1.4× longer than wide; inner margin of cell 1 distinctly grooved from apex to basal third, outer margin obsolete, inner margin of cell 2 grooved from apex to basal fourth; cell 3 complete; humeral carina well-marked; discal surface with lines of shallow, minute punctures, no discernable pubescence.

Male genitalia: (Fig. 32-33) parameres broadly triangular, apparently fused except for narrow line at distal sixth; each paramere with 2 setae, a short, stout basal seta near inner margin at about midpoint, not attaining apex of paramere, and a shorter, narrower seta on lateral margin; basal plates elongate, with a curved process distally (Fig. 32); flagellum very narrow, longer than basal strut, internal sac with a v-shaped fibrous patch.

Female allotype: 3.3mm long; head 2.7× wider than long; eye larger, comprising 0.7× length of head; antennae shorter, attaining midpoint of pronotum, antennomeres IV-VIII moniliform; pronotum 1.4× wider than long; elytra 1.6× longer than wide.

Variation: Length of paratypes range from 2.5mm to 3.6mm.

Distribution. Known only from Santa Cruz Is., Archipiélago de Colón, Ecuador.

Paratypes. 11, with label data as follows: 7, "Galapagos : I. Santa Cruz Verst. S.E., basse altitude (à la lumière) XII.1964/1.65 N. & J. Leleup"; 1, "Galapagos : I. Santa Cruz Verst. S.E., basse altitude (à la lumière) II.1965 N. & J. Leleup"; 1, "Galapagos : I. Santa Cruz vers S.E., basse altitude (à la lumière) I/ II.1965 N. & J. Leleup"; 2, "Galapagos : I. Santa Cruz Station Darwin (lumière) Basse altitude X.1964 N. & J. Leleup". Most of these also bear a black on purple printed label: "Coll. R. I. Sc. N. B.". Deposited in IRSNB and FSCA.

Etymology. The specific epithet is derived from the latinization of the Galapagos Islands, which means Islands of Tortoises.

Discussion. This species is quite similar to *L. suturalis* and is probably derived from that widespread Neotropical species. Its combination of differences in external structure and male genitalia seem sufficient to recognize its species status.

***Laemophloeus lecontei* Grouvelle, 1876: 496**
Fig. 9, 34-38

Laemophloeus lecontei Grouvelle, 1876: 496
Laemophloeus chevrolati Grouvelle, 1878: 264, n**ew synonym**

Types: Of *L. lecontei*: I have examined two female specimens from the MNHM with the following label data: "Am. Bor. Chevrolat" [handwritten]/"Type"[printed]/"TYPE" [printed black on red]; and "ex. Mus. Chevrolat" [handwritten]/"Lecomti [*sic*] A. Grouv" [in Grouvelle's hand]; of *L. chevrolati*: I have examined a single male specimen with the following data: "Cuba c^{n} Dejean." [in Grouvelle's hand]/ "MUSEUM PARIS COLL. A. GROUVELLE 1917" [printed]/"L. Chevrolati prob. Grouv" [in Grouvelle's hand]. Although not the specimen described by Grouvelle (1878), it is from the same collection and general locality, and may be part of the type series. It agrees with the description and illustration. It is conspecific with *L. lecontei* Grouvelle.

Diagnosis. The following combination of characters is diagnostic for this species: club antennomeres with complex pubescence (Fig. 35), male with triangular epistomal horns that are sinuate laterally (Fig. 34, 36), parameres narrowly acuminate distally (Fig. 38). Females are very similar to those of *L. taurus*, but the epistome is emarginate over the mandibular insertion (Fig. 2). Length, 1.6mm - 3.1mm.

Distribution. Caribbean, North, Central and South America.

Neotropical specimens examined. 195, **BAHAMAS**: **Andros**: Forfar Field Station; Maidenhair Coppice (Turnbow and Thomas 2008); **BELIZE**: **Orange Walk**: Rio Bravo Conservation District, vic. La Milpa Research Station; **BOLIVIA**: **Santa Cruz**: 3.7km SSE Buena Vista, Hotel Flora & Fauna; Potrerillos del Guendá, 40km NW Santa Cruz; **BRAZIL**: **Rondônia**: 62km SW Ariquemes, near Fazenda Rancho Grande; **CAYMAN ISLANDS**: **Cayman Brac**: Brac Paradise Subdivision; Brac Parrot Reserve; Hemmington Rd. at Songbird Dr.; Major Donald Dr., 0.6 km E jct. Ashton Reid Dr.; **Grand Cayman**: Mastic Trail; **Little Cayman**: North Coast Rd., 0.1 km W jct. Olivine Kirk Rd. (Thomas et al. 2013); **COLOMBIA**: **Antioquia**: 24km. S & 21km W of Zaragoza, above Rio Anori; **Valle**: Finca Kuchman; **COSTA RICA**: **Cartago**: Turrialba; La Selva; **DOMINICAN REPUBLIC**: **Pedernales**: 21km. N Cabo Rojo; **HONDURAS**: **Olancho**: Parque Nacional La Muralla, Sendero Pizole; **JAMAICA**: **Clarendon**: Milk River Bath; **MEXICO**: **Quintana Roo**: 19km N Felipe Carillo Puerto; **Veracruz**: Lake Catemaco, "Coyame"; **PANAMA**: **Colón**: Sierra Llorona Lodge; **TRINIDAD**: **San Juan-Laventille:** Curepe; **Tunapuna-Piarco:** Arima-Blanchissuese Rd.; **VENEZUELA**: **Caracas Metropolitan**: Caracas, Botanical Gardens; **Miranda**: Panaquire. All in FSCA.

Discussion. This is one of the most abundant and widespread of the Neotropical species of *Laemophloeus*, occurring from Bolivia to Mexico, and throughout the West Indies to southern Florida. The peculiar pubescence character of the club antennomeres is shared only with *L. taurus*, which also possesses epistomal horns in the male and a similar form of genitalia. Interestingly, the form of the narrowly attenuate parameres also occurs in most of the species with six or more segmented antennal clubs (Thomas 2013). It is possible that the shared possession of attenuate parameres and modified antennae (indicates a close evolutionary relationship between the former and latter groups.

***Laemophloeus mathani* Grouvelle, 1889:108**
Fig. 10, 39-43

Laemophloeus mathani Grouvelle, 1889:108

Types: The type of this species could not be located in the MNHN. A specimen in the MNHN bearing the data: "Goyaz" [Goiás] "Bresil"/"tres voisin Mathani Grouv [in Grouvelle's hand]/"MUSEUM PARIS COLL. A. GROUVELLE 1917" belongs to *L. incisus* Sharp. I am basing my concept of this species on the

original description and, especially, the illustration supplied by Grouvelle (1889), which clearly shows the characteristic shape of the pronotum and the lack of deep epistomal emarginations over the antennae.

Diagnosis: The following combination of characters is diagnostic for this species: Length, 1.7mm - 2.4mm; body entirely testaceous to castaneous (Fig. 10); pronotum without antebasal denticle and lateral margin not or barely sinuate before posterior angle (Fig. 40-41); males without emargination over antennal insertion (Fig. 39); and in large specimens an elongate elliptical antennomere XI that is about as long as the combined length of the two preceding antennomeres; male genitalia (Fig. 42-43) with narrowly triangular basal plates, complex armature of internal sac, and parameres with four pairs of setae, the inner basal pair located at about midpoint of paramere and thicker but shorter than the outer pair which are located basally; two pairs of secondary setae are located between the basal seta and margin and on the lateral margin near the apex. Females are similar to those of *L. incisus*, but the lateral pronotal margins of that species generally are more sinuate.

Distribution. South America.

Neotropical specimens examined. 152, **BOLIVIA**: **Santa Cruz**: 3.7km SSE Buena Vista, Hotel Flora & Fauna; Potrerillos del Guendá, 40km NW Santa Cruz; El Refugio Los Volcanes; 5km ESE Warnes, Hotel Rio Selva; **BRAZIL**: **Goiás:** Jataí*;* **Rondônia**: 62km SW Ariquemes, near Fazenda Rancho Grande; **ECUADOR: Sucumbios:** Shushufindi, 215m.; **PERU: Loreto:** 60km SW from Iquitos to Nauta, Rio Icaya, 120m.; 68km SW from Iquits to Nauta, Rio Itaya, 110m.; **SURINAME: Brokopondo:** Ston Eiland Eco-Resort near Brownsberg; **Para:** jct. rd. to Overbridge River Resort and Brownsberg Rd. All in FSCA.

Discussion. Specimens from Suriname tend to be castaneous in color versus pale testaceous in specimens from other localities, but differ in no other way.

***Laemophloeus megacephalus* Grouvelle, 1876:495**
Fig. 11, 44-48

Laemophloeus megacephalus Grouvelle*,* 1876:495
Laemophloeus distinguendus Sharp*,* 1899:518, **New synonym**
Laemophloeus floridanus Casey, 1884: 45 (synonymy by Thomas 1986: 60)

Types: Of *Laemophloeus megacephalus* Grouvelle: Thomas (1993) designated the lectotype from Grouvelle material in the MNHN. Of *Laemophloeus floridanus* Casey: Thomas (1993) reported that the type was lost, but Casey's description sufficed to synonymize it under Grouvelle's species. Of *Laemophloeus distinguendus* Sharp, I have examined a number of Biologia specimens in the BMNH, including a pair of specimens (Fig. 44) with data as follows: "[male symbol] [female symbol] Laemophloeus distinguendus Types D.S. Bugaba" [on card with specimens]/"Type" [red-bordered circle]/"Bugaba, Panama. Champion."/"B.C.A., Col., II, (1). Laemophloeus distinguendus". *Laemophloeus distinguendus* Sharp does not differ in any appreciable way from *L. megacephalus* Grouvelle and is here synonymized under that species.

Diagnosis. The following combination of characters is diagnostic for this species: Length, 1.9mm - 2.8mm; males with a tuft of setae on the dorsal surface of the antennal scape (Fig. 45-46), and epistomal emarginations over the antennae (Fig. 46, 48); parameres (Fig. 47) with two pairs of setae, the inner, basal pair long and stout and widely separated, the outer pair shorter and more slender. Females cannot be separated from those of *L. suturalis*.

Distribution. Caribbean, North, Central and South America.

Neotropical specimens examined. 39, **BOLIVIA: Santa Cruz:** 3.7km SSE Vera Cruz, Hotel Flora & Fauna; **COSTA RICA: Puntarenas:** Villa Neily; **JAMAICA: Clarendon:** Milk River Bath; **MEXICO: Veracruz**: Lake Catemaco, "Coyame"; 10mi S Coatepec; **PANAMA: Chiriqui:** Puerto Armuelles; **Coclé:** Cerro La Vieja Lodge, Chiruigi Arriba; **Darien:** Cana Field Station; **Panama:** Las Cumbres; **SURINAME: Brokopondo:** Ston Eiland Eco-Resort near Brownsberg; **Para:** near Overbridge River Resort; **Paramaribo:** Weg Naar Zee, Bennie's Park; **TRINIDAD: Diego Martin:** Petit Valley; **San Juan-Laventille:** Curepe, Santa Margarita Circular Road; **Tunapuna-Piarco:** Arima-Blanchissuese Rd. All in FSCA.

Discussion. This is the most widely distributed species of New World *Laemophloeus*, occurring from the eastern U.S. south throughout Central America and the Caribbean and South America to Bolivia. Curiously, although widespread it does not appear to be very abundant in the Neotropics and I have seen relatively few Neotropical specimens of it compared to the other Neotropical species, *L. lecontei* and *L. suturalis*, that also occur in the Nearctic.

Neotropical specimens tend to be uniformly testaceous or with the circum-scutellar region of the elytra indistinctly infuscate. Nearctic individuals tend to be more strongly marked.

***Laemophloeus planaclavatus* Thomas, n.sp**
Fig. 12, 48-54

Types: Holotype male, deposited in FSCA, with following label data: "BRAZIL: Rondonia, 62km. SW Ariquemes, near Fzda Rancho Grande, 8-20-XI-1994, J.E.Eger, L.B.&C.W. O'Brien, blacklight trap"; allotype female, deposited in FSCA, with following label data: "BRAZIL: Rondonia, 62km SW Ariquemes, Fzda. Rancho Grande, 10-XI-1994, C. O'Brien blacklight trap".

Diagnosis. The following combination of characters is diagnostic for this species: body form short and broad (Fig. 12), head with finely incised oblique lines laterally on frons (Fig. 53), elytra broadly explanate; body color testaceous, with base and suture darkly infuscate; antennae short, barely attaining base of elytra in large males; antennal club segments short and flattened (Fig. 54); basal plates rather broad, oval in shape; parameres with two pairs of setae, the inner, basal pair long, stout and narrowly separated, the outer pair shorter and more slender, plus three additional pairs of secondary setae arranged in a transverse row basally (Fig. 50).

Description: 2.2mm long; oblong-ovate; dorsal and ventral surfaces testaceous; elytra infuscate basally and along suture to about midpoint; mandibles darker distally; legs slightly paler.

Head: 2.6× wider than long; epistome with emargination over labrum deep and narrow, mandibular emarginations well-marked, antennal emarginations absent; frontoclypeal suture complete (Fig. 49); with oblique incised line on each side extending posteriorly from frontoclypeal suture to anterior third of eye (Fig. 53), longitudinal line present, not impressed; very finely, sparsely punctate, punctures much smaller than an eye facet, separated by 4-6 diameters, each subtending an inconspicuous seta about twice times length of a puncture diameter; disc of head between punctures smooth and shiny, without microreticulation. Mandibles small, curved. Eyes large, length 0.7× that of head (Fig. 49). Antennae short, attaining about base of pronotum; scape about 1.4× longer than broad; pedicel subquadrate, about 0.5× length of scape; III narrow and elongate, subequal in length to scape; IV-VII subquadrate, subequal in length; each about 0.5× length of scape; VIII slightly wider than preceding, club comprised of IX-XI, club antennomeres flattened (Fig. 54); IX-X each slightly expanded distally, IX 0.7× length of scape, X slightly shorter than IX; XI 1.1× length of scape.

Thorax: Pronotum 1.8× wider than long; widest at about apical third; 1.1× wider at apical third than across basal angles; anterior angles produced, narrowly rounded; hind angles produced obtuse; antebasal denticle indistinct (Fig. 49); sublateral line with a median dark spot and fovea; punctation and pubescence similar to head; surface smooth and shiny between punctures, not microreticulate. Legs rather short; femora stout.

Elytra: 1.3× longer than wide; lateral margins explanate; inner margin of cell 1 distinctly grooved only at apical third, remainder obsolete, outer margin obsolete, inner margin of cell 2 grooved at apical two-thirds, outer margin obsolete; cell 3 complete; humeral carina well-marked; discal surface with lines of minute punctures, no discernable pubescence.

Male genitalia: (Fig. 50-52) parameres sharply triangular, apparently fused except for narrow line at distal fourth; each paramere with a long, stout basal seta near inner margin base, and a slightly shorter, narrower seta near lateral margin; at base, laterad to insertion of basal seta are three short, stout setae arranged in a transverse row; basal plates elongate, with a curved process distally (Fig. 50); flagellum narrow, bifurcate distally, almost twice length of basal strut, internal sac with a fibrous patch; claspers broadly triangular (Fig. 52).

Female allotype: 2.3mm long; head 2.8× wider than long; eye 0.7× length of head; antennae proportionally shorter, attaining only midpoint of pronotum; pronotum 1.8× wider than long; elytra 1.3× longer than wide;

Variation: Paratypes range in length from 2.0mm to 2.4mm.

Distribution. South America. This species is known from only three localities in Brazil and Bolivia.

Paratypes. 19, with label data as follows: 2 "BOLIVIA: Santa Cruz, 3.7km SSEBuenaVista, Hotel Flora & Fauna 405m., 5-15-XI-2001 17°29.949'S, 63°33.152'W M.C.Thomas&B.K.Dozier tropical transition forest"; 3 "BRAZIL: Rondonia, 62km. SW Ariquemes, near Fzda Rancho Grande, 8-20-XI-1994, J.E.Eger, L.B.&C.W. O'Brien, blacklight trap"; 1 "BRAZIL: Rondonia, 62km SW Ariquemes, Fzda. Rancho Grande, 10-XI-1994, C. O'Brien blacklight trap"; 2 "BRAZIL: Rondonia, 62km SW Ariquemes nr Fzda. Rancho Grande 5-17-X-1993, JE Eger Blacklight Trap"; 1 "BRAZIL: Rondonia, 62km. SW Ariquemes, nr Fzda. Rancho Grande 27-IV-1992, U. Schmitz blacklight trap"; 1 "BRAZIL: Rondonia, 62km. SW Ariquemes, nr Fzda. Rancho Grande 23-VIII-1992, U. Schmitz blacklight trap"; 2 "BRAZIL: Rondonia, 62km. SW Ariquemes, nr Fzda. Rancho Grande 20-VII-1992, U. Schmitz blacklight trap"; 1 "BRAZIL: Rondonia, 62km. SW Ariquemes, nr Fzda. Rancho Grande 6-V-1992, U. Schmitz blacklight trap"; 1 "BRAZIL: Rondonia 62km SW Ariquemes, nr Fzda Rancho Grande 23-25-III-1996, U. Schmitz BLT"; 1 "BRAZIL: Rondonia, 62km. SW Ariquemes, nr. Fzda Rancho Grande 23-24-XII-1996, U. Schmitz blacklight trap"; 2, "Ilha dos Busios S. Paulo - Brasil 16.X-4.XI.963 Exp. Dep. Zool." Paratypes deposited in DEFS, FSCA, and MNKM.

Etymology. The specific epithet refers to the distinctively flattened antennal club.

Discussion. This species is unique among known species in its short, broad body form, the short antennae with flattened club, and the accessory setae on the parameres. It shares with *L. dozieri* possession of oblique incised lines laterally on the frons. Its color pattern is very similar to *L. suturalis*.

Laemophloeus suturalis Reitter, 1876:50

Fig. 13, 55-58

Laemophloeus suturalis Reitter, 1876:50

Types: Reitter (1876) described *Laemophloeus suturalis* from two specimens: a male from Colombia and a female from Guatemala. Sharp (1899) noted that he had seen the female from Reitter's collection, which was in the possession of Rene Oberthür at the time. The female should be in the MNHN with the rest of Reitter's "Cucujidae" (Horn and Kahle 1935-37), but could not be located there (Azadeh Taghavian, in litt.). Reitter (1896) noted that the male specimen was in "der Sammlung der Herrn v. Bruck." Horn and Kahle (1935-1937) wrote that the collection of Emil vom Bruck went in 1882 to "Zool. Univ. Mus., Bonn." The vom Bruck collection apparently was destroyed during World War II when the University of Bonn was hit by Allied bombs (Groll 2012).

Sharp (1899) added: "Reitter's description applies, however, only in a very dubious manner to our insect, so it is quite probable that the male he had before him was that of some other allied species." In

the absence of that male specimen, I am basing my concept of this species on that of Sharp (1899).

Diagnosis. The following combination of characters is diagnostic for this species: Length, 2.1mm - 2.8mm; body color testaceous, with base and suture darkly infuscate (Fig. 13); males without tuft of hair on scape, epistome without an emargination over the antennal insertions; basal plates moderately broad; parameres with two pairs of setae, the inner, basal pair long, stout and narrowly separated, the outer pair shorter and more slender (Fig. 56). Females cannot be distinguished from those of *L. megacephalus*.

Distribution. North, Central, and South America. Sharp (1899) recorded it from Mexico, Guatemala, Panama, and Colombia. Thomas (1993) added Belize, Bolivia, Costa Rica, and Trinidad, and recorded it for the first time from North America in extreme southern Florida.

Neotropical specimens examined. 168, **BELIZE: Belize:** Belize; **Toledo:** Columbia Forest Station; **BOLIVIA: Santa Cruz:** Buena Vista; 3.7km SSE Buena Vista, Hotel Flora & Fauna; Potrerillos del Guendá, 40km NW Santa Cruz; Saavedra; **BRAZIL: Minas Gerais:** Cordisburgo; **Rondônia**: 62km SW Ariquemes, near Fazenda Rancho Grande; **COSTA RICA: Alajuela; Cartago:** Turrialba; **Guanacaste:** El Viajo**; EL SALVADOR: San Vicente:** Santo Domingo; **HONDURAS: Atlantida:** Lancetilla Botanical Gardens; **MEXICO: Baja California Sur:** 3.3mm. S. El Cien; El Arco; **Nayarit:** San Blas; **Oaxaca:** Hwy 147, 6mi SE jct. 175 & 147; **Quintana Roo:** 19km N Felipe Carrillo Puerto;**San Luis Potosí:** Tamazunchale; **Veracruz:** 10mi S Coatepec; **NICARAGUA: Rivas:** 10km. NW Sapoa, Rio Casnas Gordas; **PANAMA: Chiriqui**: Puerto Armuelles; Rovira; **TRINIDAD: San Juan-Laventille:** Curepe; **VENEZUELA: Miranda:** Panaquire. All in FSCA.

Discussion. This is another very widespread Neotropical species, occurring from Bolivia to Mexico, and extreme southern Florida. It has not been recorded from the West Indies.

***Laemophloeus taurus* Thomas, n.sp**
Fig. 14, 59-62

Types: Holotype male, deposited in FSCA, with following label data: "BRAZIL: Rondonia, 62km. SW Ariquemes, near Fzda Rancho Grande, 8-20-XI-1994, J.E.Eger, L.B.&C.W. O'Brien, blacklight trap" allotype female, deposited in FSCA, with following label data: "BRAZIL: Rondonia, 62km. SW Ariquemes, Fzda. Rancho Grande 15-XI-1994, C.W. O'Brien uv trap".

Diagnosis. The following combination of characters is diagnostic for this species: club antennomeres with complex pubescence (as in Fig. 35), male with broadly triangular epistomal horns that are not sinuate laterally (Fig. 59), parameres narrowly acuminate distally (Fig. 61). Females are very similar to those of *L. lecontei*, but lack the emargination over the mandibular insertion (Fig. 3).

Description: 2.5mm long; elongate-ovate; dorsal and ventral surfaces testaceous; mandibles darker distally; legs slightly paler.

Head: 1.8× wider than long; eye 0.4× length of head; epistome with emargination over labrum deep and wide, inner edge produced anteriorly as acute tooth extending beyond labrum (Fig. 59); mandibular emarginations absent, antennal emarginations very deep, extending posteriorly beyond anterior edge of eye; frontoclypeal suture indicated laterally by dark line, obsolete medially (Fig. 14); longitudinal line indicated by a dark line, not impressed; very finely, sparsely punctate, punctures much smaller than an eye facet, separated by 2-4 diameters, each subtending an inconspicuous seta about two times length of a puncture diameter; disc of head between punctures smooth and shiny, without microreticulation. Mandibles large. Eyes small, length 0.4× that of head (Fig. 59). Antennae elongate, attaining about midpoint of elytra; scape about 1.5× longer than broad; pedicel 1.3× longer than broad, about 0.6× length of scape; III narrow and elongate, 0.9× length of scape; IV-VII elongate, subequal in length; each 0.7× length of scape; VIII slightly shorter than preceding, club comprised of IX-XI, IX-X each slightly expanded

distally, with complex pubescence (as in Fig. 35), IX about 1.2× as long as scape, X slightly shorter; XI 1.9× length of scape.

Thorax: 1.7× wider than long; widest at about apical third; 1.3× wider at apical third than across basal angles; anterior angles slightly produced, obtuse; hind angles slightly produced, obtuse; antebasal denticle distinct (Fig. 60); sublateral line with a median dark spot but without median fovea; punctation and pubescence similar to head; surface smooth and shiny between punctures, not microreticulate. Legs moderate; femora stout.

Elytra: 1.5× longer than wide; inner margin of cell 1 distinctly basally and apically, middle third represented by a row of punctures, outer margin obsolete, inner margins of cell 2 completely grooved, outer margin obsolete; cell 3 complete; humeral carina well-marked; discal surface with lines of minute punctures, no discernable pubescence.

Male genitalia: (Fig. 61-62) parameres sharply acuminate, lateral margin sinuate; narrowly separated for about half length, more broadly so basally; each paramere with 2 setae, a very short, stout basal seta near inner margin at about midpoint, and a much longer, narrower seta near lateral margin at base; basal plates represented by narrowly triangular plates (Fig. 61); claspers transversely oval, with a long narrow distal process (Fig. 62).

Female allotype: 2.0mm long; head 2.4× wider than long; eye 0.7× length of head; antennae attaining base of pronotum; median epistomal emargination broad and shallow, angles not produced, mandibular and antennal emarginations absent; pronotum 1.5× wider than long; elytra 1.7× longer than wide.

Variation: Paratypes range in length from 1.4mm to 3.4mm.

Distribution. Mexico, South America.

Paratypes. 87 with label data as follows: 9 males "BOLIVIA: Santa Cruz, 3.7km SSEBuenaVista, Hotel Flora & Fauna 405m., 5-15-XI-2001 17°29.949'S, 63°33.152'W M.C.Thomas&B.K.Dozier tropical transition forest"; 1 male, 1 female "BOLIVIA: SANTA CRUZ Reserva Privada Potrerillos de Guendá; 17°40.26'S, 63°27.44'W; 400m; 10/29-XI-2006; B.K. Dozier coll."; 1 male, 1 female "BOLIVIA: Santa Cruz, Potrerillos de Guendá 40km NW Santa Cruz 17°40.3'S, 63°27.4'W 22-XI-12-XII-2005 coll. B.K. Dozier"; 1 male "BOLIVIA: Santa Cruz Dist.,, Potrerillos de Guenda, Preserva Natural, 17°40'S, 63°27'W, 370m 1-4-X-2007, J.E. Wappes & R. Morris, ex bl/mv"; 1 male "COLOMBIA: Dept. Valle, Finca Kuchman 16-I-1972 C. Wilkerson"; 5 males, 1 female "BRAZIL: Rondonia, 62km SW Ariquemes, Fzda Rancho Grande, 11-XI-1994, C.W. O'Brien blacklight trap"; 1 male "BRAZIL: Rond. UVtrap, 62km.SW.Ariquemes,Fzda. Rancho Grande 11.11.1994, C. O'Brien"; 3 females "BRASIL: Rondonia, 62km SW Ariquemes, Fzda. Rancho Grande, 10-XI-1994, C. O'Brien blacklight trap"; 8 males, 4 females; "BRAZIL: Rondonia, 62km SW Ariquemes, Fzda Rancho Grande, 10-XI-1994, C.W. O'Brien blacklight trap"; 6 males, 4 females "BRAZIL: Rondonia, 62km. SW Ariquemes, Fzda. Rancho Grande 15-XI-1994, C.W. O'Brien uv trap"; 3 males, 5 females "BRAZIL: Rondonia, 62km. SW Ariquemes, Fzda. Rancho Grande, 14-XI-1994, C.W. O'Brien blacklight trap"; 7 males, 9 females "BRAZIL: Rondonia, 62km. SW Ariquemes, near Fzda Rancho Grande, 8-20-XI-1994, J.E.Eger, L.B.&C.W. O'Brien, blacklight trap"; 3 males "BRAZIL: Rondonia, 62km SW Ariquemes nr Fzda Rancho Grande 4-16-XI-1997, JE Eger Black Light Trap"; 2 males, 3 females "BRAZIL: Rondonia, 62km SW Ariquemes nr Fzda Rancho Grande 3-15-XII-1996, JE Eger Black Light Trap"; 1 male, 1 female "BRAZIL: Rondonia, 62km. SW.Ariquimes, Fzda. Rancho Grande 12-XI-1995, C.O'Brien blacklight trap"; 2 females "BRAZIL: Rondonia, 62km. SW.Ariquimes, nr. Fzda. Rancho Grande 20-IX-1992 U. Schmitz blacklight trap"; 1 female "BRAZIL: Rondonia, 62km. SW.Ariquimes, nr. Fzda. Rancho Grande 25-IX-1992 U. Schmitz blacklight trap"; 1 male "MEXICO: Quintana Roo 19km N Carrillo Puerto 18-VI-1990 coll. M.C. Thomas"; 1 male "MEXICO: State of Veracruz, Lake Catemaco, 'Coyame'" / "R.E. Woodruff 7-9-VII-1963 blacklight trap"; 1 female "MEXICO: Chiapas El Chorreadero 26-VI-1990 M.C. Thomas". Paratypes deposited in BMNH, DEFS, FSCA, MNHN, MNKM, and USNM.

Etymology. The specific epithet is the Latin noun for "bull," referring to the long epistomal horns.

Discussion. The peculiar pubescence character of the club antennomeres is shared only with *L. lecontei*, which also possesses epistomal horns in the male and a similar form of genitalia.

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Figure 4. Habitus, *Laemophloeus capitesculptus* Thomas, n.sp., male.

Figure 5. Habitus, *Laemophloeus corporeflavus* Thomas, n.sp., male.

Figure 6. Habitus, *Laemophloeus dozieri* Thomas, n. sp., male.

Figure 7. Habitus, *Laemophloeus incisus* Sharp, male.

Figure 8. Habitus, *Laemophloeus insulatestudinorum* Thomas, n.sp., male.

Figure 9. Habitus, *Laemophloeus lecontei* Grouvelle, male.

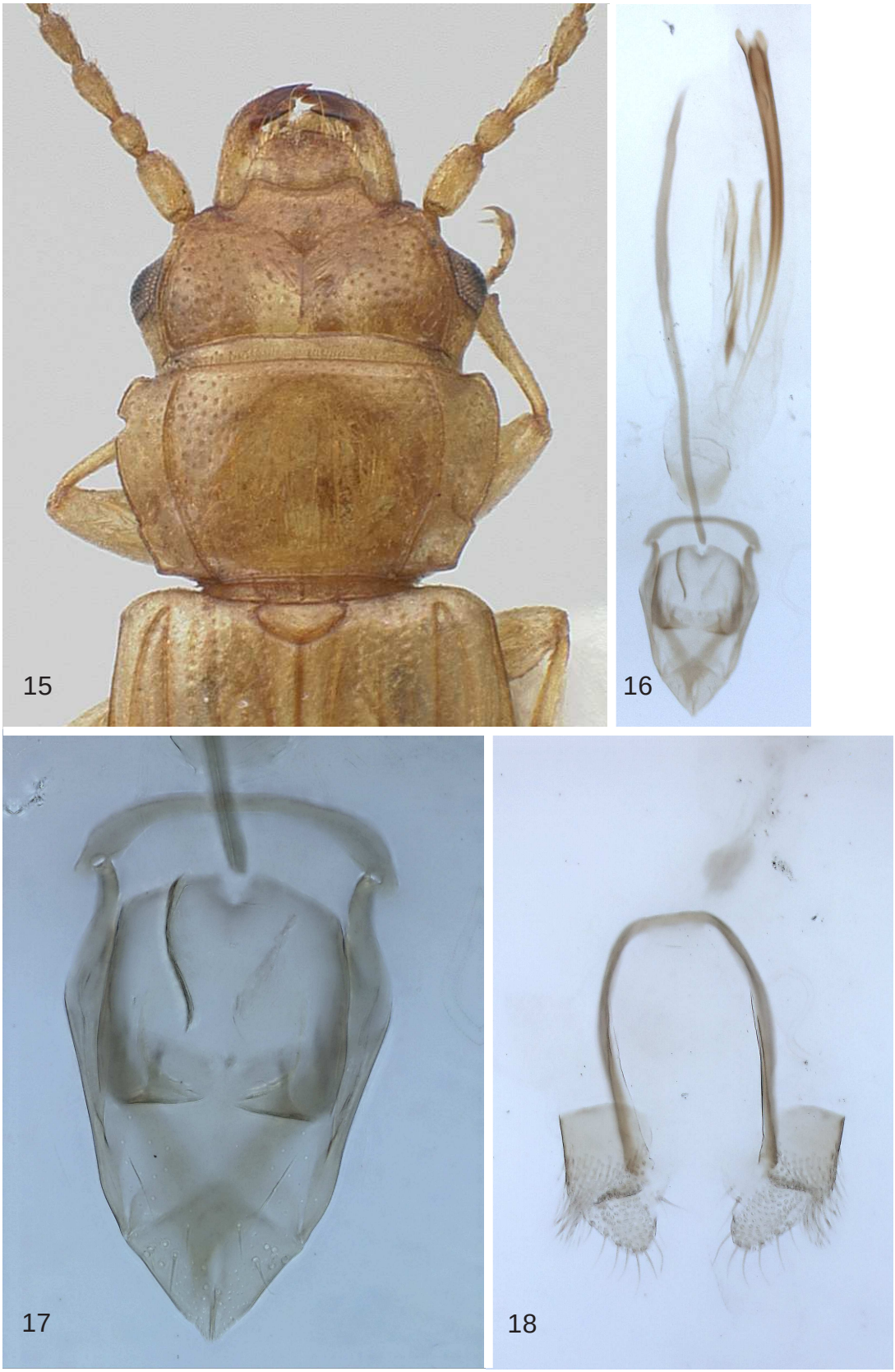
Figure 10. Habitus, *Laemophloeus mathani* Grouvelle, male.

Figure 11. Habitus, *Laemophloeus megacephalus* Grouvelle, male.

Figure 12. Habitus, *Laemophloeus planaclavatus* Thomas, n.sp., male.

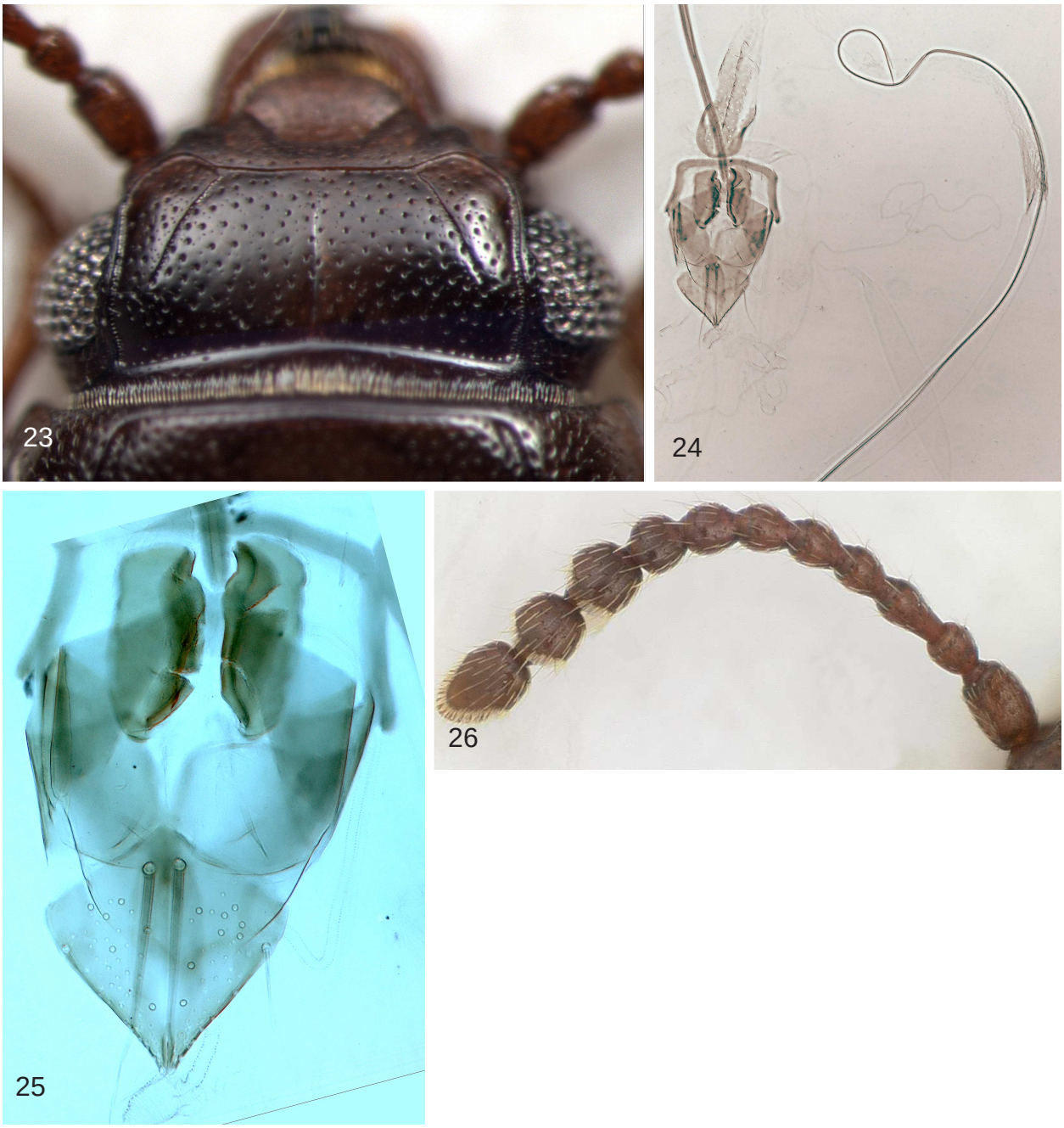
Figure 13. Habitus, *Laemophloeus suturalis* Reitter, male.

Figure 14. Habitus, *Laemophloeus taurus* Thomas, n.sp., male.

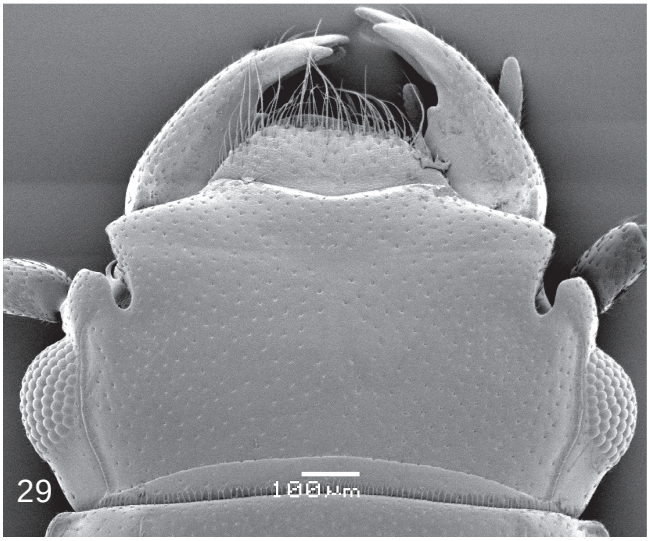


Figures 15-18. *Laemophloeus capitesculptus* Thomas, n.sp. **15)** Head and pronotum, male. **16)** Male genitalia. **17)** Aedeagus. **18)** Abdominal segment 8, male.

Figures 19-22. *Laemophloeus corporeflavus* Thomas, n.sp. **19)** Head and pronotum, male. **20)** Aedeagus. **21)** Flagellum. **22)** Abdominal segment 8, male.

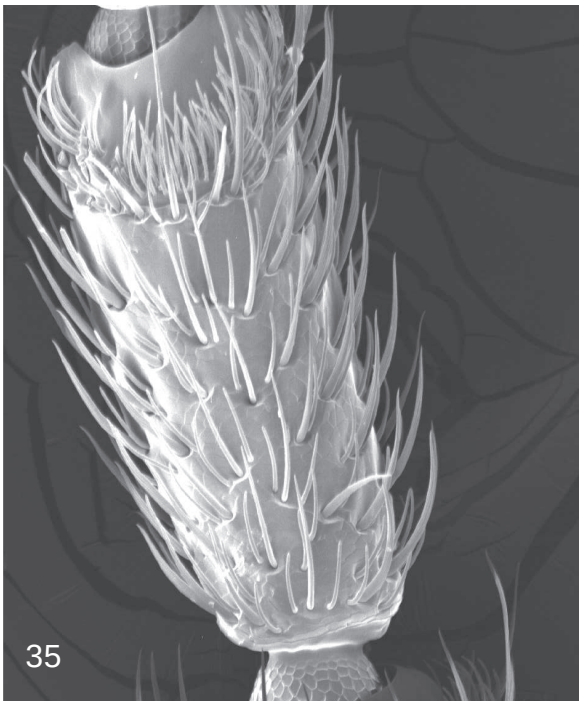


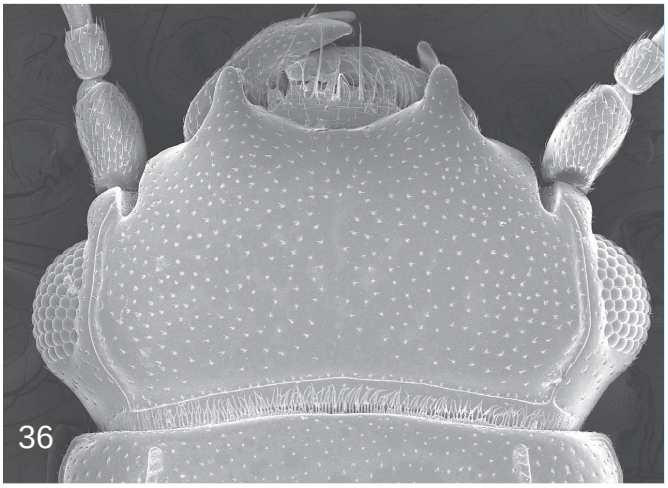
Figures 23-26. *Laemophloeus dozieri* Thomas, n. sp. **23)** Head, male. **24)** Male genitalia. **25)** Aedeagus. **26)** Antenna, male.

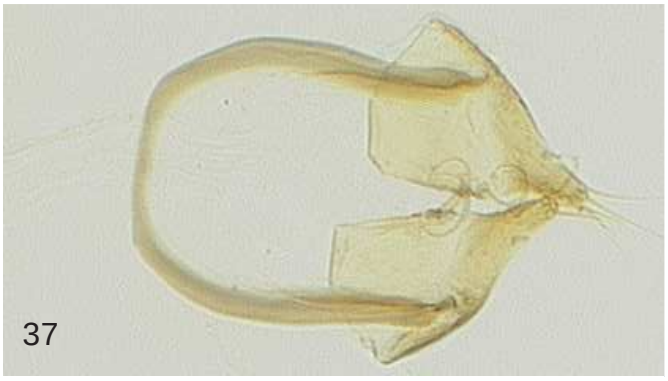


Figures 27-30. *Laemophloeus incisus* Sharp. **27)** Head and pronotum, male. **28)** Male genitalia. **29)** Head, male. **30)** Sclerotization of internal sac.

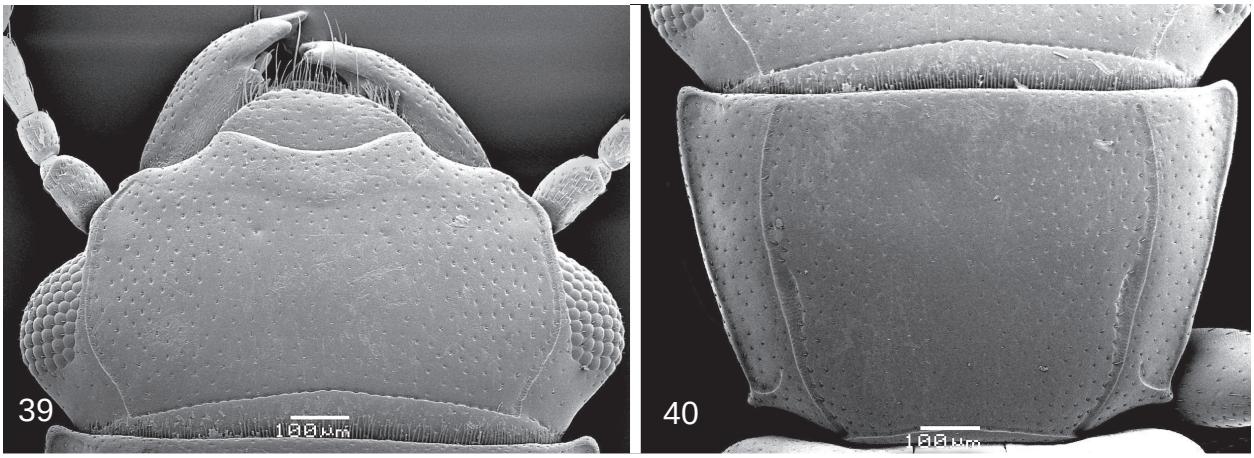
Figures 31-33. *Laemophloeus insulatestudinorum* Thomas, n.sp. **31)** Head and pronotum, male. **32)** Aedeagus. **33)** Male genitalia.



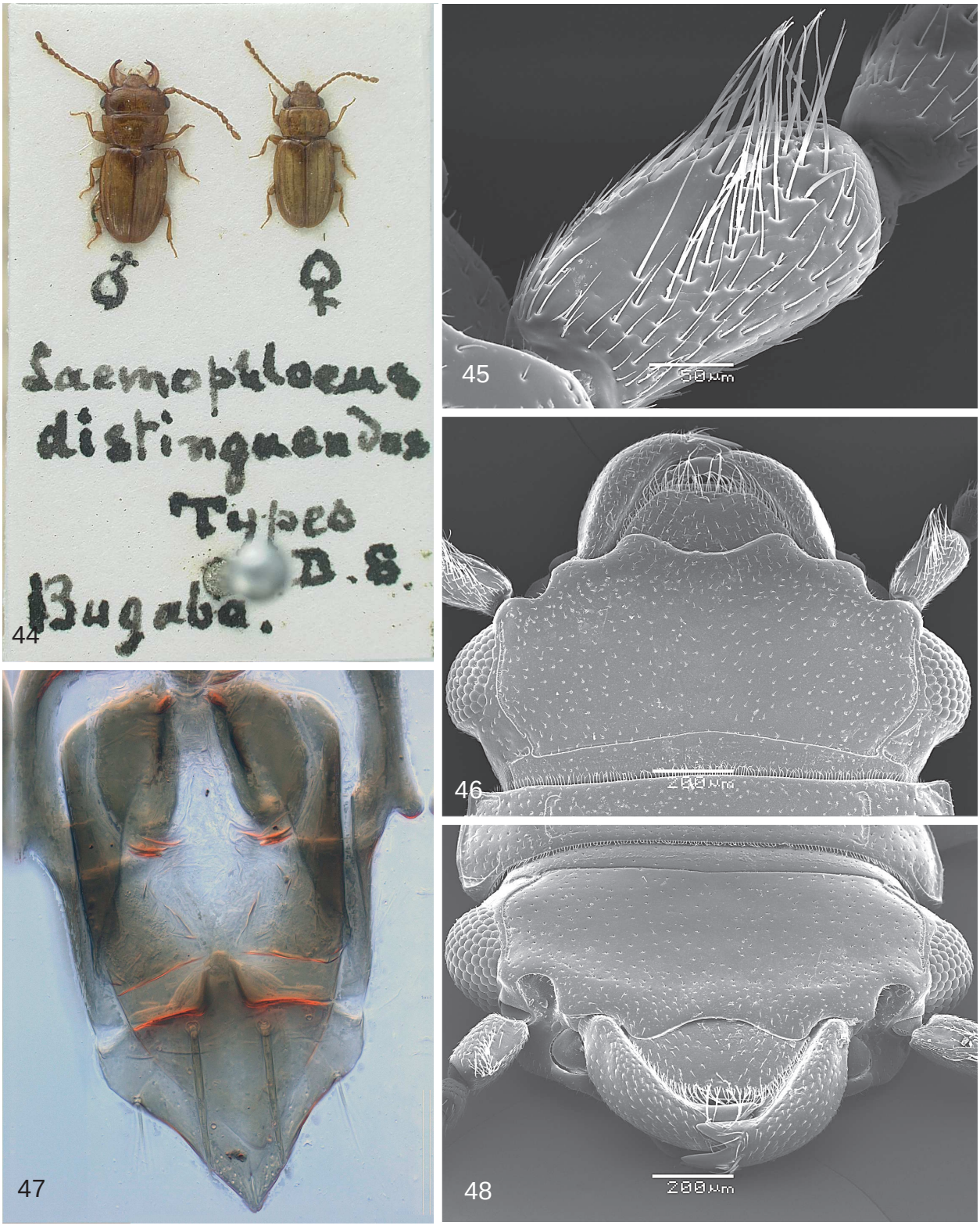




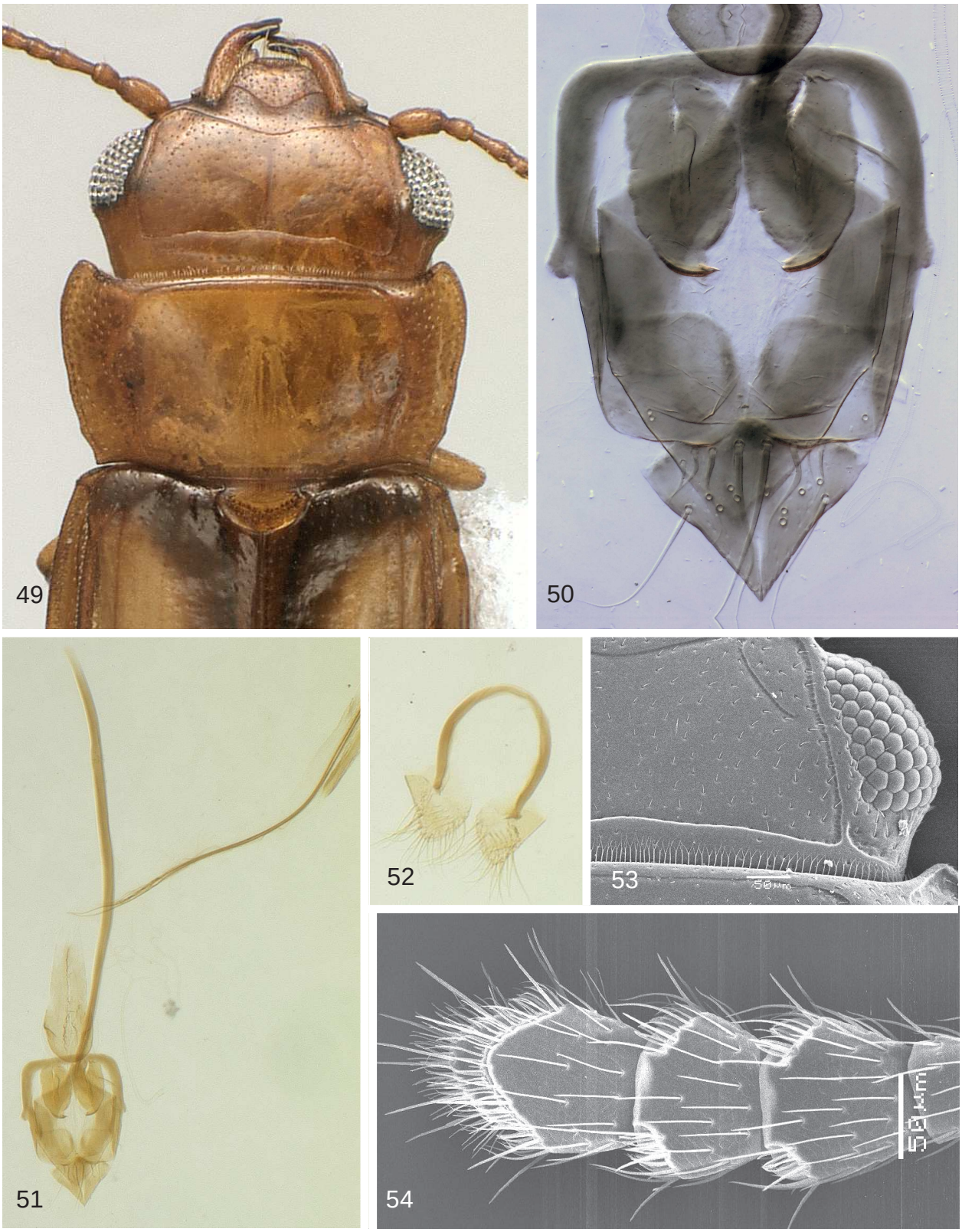
Figures 34-38. *Laemophloeus lecontei* Grouvelle. **34)** Head and pronotum, male. **35)** Antennomere X, male. **36)** Head, male. **37)** Abdominal segment 8, male. **38)** Male genitalia.



Figures 39-43. *Laemophloeus mathani* Grouvelle. **39)** Head, male. **40)** Pronotum, male. **41)** Head and pronotum, male. **42)** Median lobe. **43)** Tegmen.

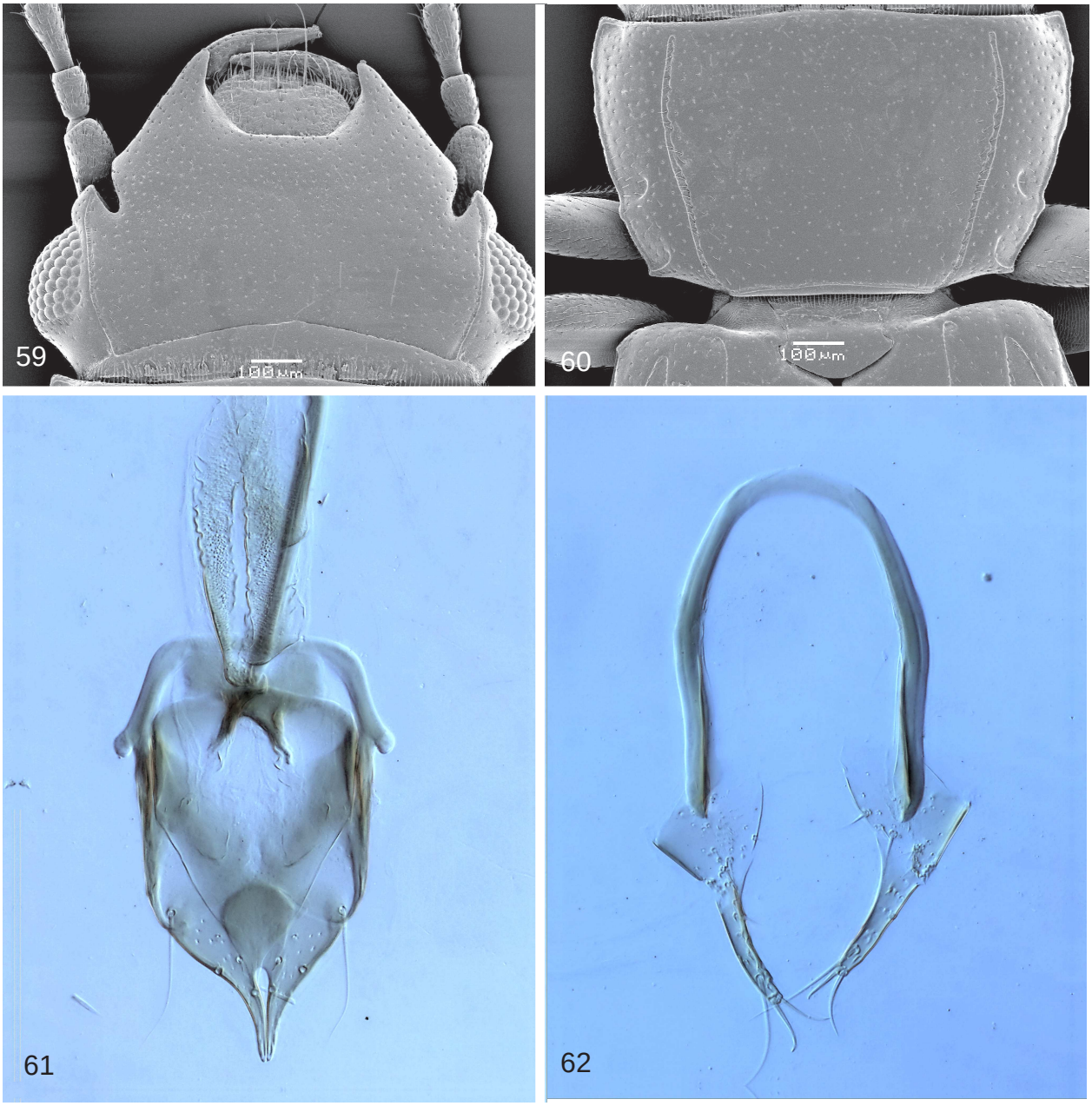


Figures 44-48. *Laemophloeus megacephalus* Grouvelle. **44)** Types of *L. distinguendus* Sharp. **45)** Male antennal scape. **46)** Head, male. **47)** Aedeagus. **48)** Head, male, anterior oblique view.



Figures 49-54. *Laemophloeus planaclavatus* Thomas, n.sp. **49)** Head and pronotum, male. **50)** Aedeagus. **51)** Male genitalia. **52)** Abdominal segment 8, male. **53)** Right half of frons, female. **54)** Antennal club.

Figures 55-58. *Laemophloeus suturalis* Reitter. **55)** Head and pronotum, male. **56)** Aedeagus. **57)** Male genitalia. **58)** Abdominal segment 8, male.



Figures 59-62. *Laemophloeus taurus* Thomas, n.sp. **59)** Head, male. **60)** Pronotum, male. **61)** Aedeagus. **62)** Abdominal segment 8, male.